Project Checklist

for

Anthony Lakes Highway

Oregon Forest Highway 133 (3) Mile Post (MP) 12.7 to 15.0 Baker County Oregon



Prepared by

U.S. Department of Transportation Federal Highway Administration Western Federal Lands Highway Division







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GLOSSARY OF TERMS AND ACRONYMS

3R Resurface, Restore, and Rehabilitate - Road improvements involving

minor changes to roadway alignment and geometry.

AASHTO American Association of State Highway and Transportation Officials

AADT Average Annual Daily Traffic - The total yearly volume in both directions

of travel divided by the number of days in a year.

ADT Average Daily Traffic - The average number of vehicles per day traveling

in both directions past a given point.

ALMR Anthony Lakes Mountain Resort

ATV All terrain vehicle

BMPs Best Management Practices – A set of procedures and physical measures

put into place to minimize off-site damage to natural resources from

erosion and sediment coming off a construction site.

Biotechnical erosion control

The use of live plant materials, in combination with engineered structures,

to prevent or control slope failure and erosion.

Cubic feet per second - The rate of flow of a creek or river measured by

quantity over time, often referred to as discharge: "the rate at which a volume of water passes a given point in a given amount of time."

CIP A paving method (cold-in-place) in which specially designed equipment is

used to detach and mill the upper 75 to 100 millimeters (3 to 4 inches) of existing road surface, then a device adds emulsified asphalt to the milled

material and lays it back onto the roadway.

CR County Road

Clear Zone The unobstructed, relatively flat area provided beyond the edge of the

traveled way for the recovery of errant vehicles.

Design Speed The speed at which a vehicle should be able to traverse a roadway safely

under favorable environmental conditions.

FR Forest Road

FHWA Federal Highway Administration

Horizontal alignment The linear shape of a roadway, made up of a set of straight lines and

curves consistent with the topography of the terrain through which it

travels.

Live facines Bundles of live branch cuttings, such as willow or dogwood, bound

together into long rolls and fastened to the ground along the slope contour or on terraces. The bundles trap and hold soil, and reduce slope length and steepness. In moist soil conditions, the branches will root and develop into

shrubs, further strengthening the slope with their root structure.

MIS Management Indicator Species – A species whose habitat requirements

most reflect those of the species community in the habitat of concern, usually used to indicate habitat quality and to predict future conditions

MP Milepost

MMBF Million Board Feet

ODFW Oregon Department of Fish and Wildlife
ODOT Oregon Department of Transportation

RVD Recreation Visitor Day - A measure of recreation use in which one RVD

equals twelve visitor hours (one visitor staying for 12 hours), which may be aggregated continuously, intermittently, or simultaneously by one or

more persons.

Reconstruction Roadway improvements typically involving a major change to an existing

roadway within the same general right-of-way corridor which may involve

substantial modification to horizontal and vertical road alignment.

Seasonal Average Daily Traffic - The average number of vehicles per day

traveling in both directions past a given point. This is usually expressed as

seasonal average daily traffic for roads that experience seasonal

fluctuations in traffic flow.

SEE Team Social Economic and Environmental Team – Project level decision-

making group made up of individuals from partner agencies whose role it is to act on behalf of their agencies by reviewing project information, making project recommendations, and coordinating on major project

decisions.

Sight distance The distance needed by a motorist to perceive the presence of a potentially

conflicting vehicle and take appropriate action to avoid a collision.

TEPC Wildlife, fish and plant species listed under the Endangered Species act as

Threatened, Endangered, Proposed, or Candidate species.

Vertical alignment Rises and dips in the roadway.

WFLHD Western Federal Lands Highway Division

PURPOSE OF PROJECT CHECKLIST

The purpose of the project checklist is to notify and inform the potentially affected public, tribes, regulatory agencies, and resource management agencies about a proposed Federal Highway Administration (FHWA) project and to provide them with the opportunity to become involved in the project development process.

The project checklist describes why a project is needed, the scope of the necessary improvements, and the alternative solutions being considered. It contains a description of the potentially affected environment and an estimate of the possible impacts to the environment from project actions. In addition, the checklist helps identify relevant issues on which to base a more comprehensive analysis.

The checklist contains the results of any location studies, engineering investigations, and environmental studies that have been started or completed to date. The information will be used in later design activities and for National Environmental Policy Act (NEPA) documentation for the project.

Information contained in this checklist and public response to project issues will help the WFLHD determine the classification of the proposed project and what type of environmental documentation, Environmental Impact Statement (EIS), Environmental Assessment (EA), or Categorical Exclusion (CE), is required for compliance with NEPA.

INTRODUCTION

Project Name and Route

Oregon Forest Highway 133 (3), Anthony Lakes Highway, Baker County Route 1146 and Forest Road 73

Lead Agency

Federal Highway Administration Western Federal Lands Highway Division 610 East Fifth Street Vancouver, Washington 98661-3839

Partner Agencies

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DESCRIPTION OF THE PROPOSED PROJECT

Project Area Information

The Anthony Lakes Highway is located in the northwest corner of Baker County Oregon (see vicinity map, figure 1). The proposed project is the third of a three-phase project which begins in the city of Haines at the junction of U.S. Highway 30, and extends west, north, and then west again along Baker County Route (CR) 1146 for 15.3 miles to the junction of the Lower Gorham Butte Road. From this point, the project route changes designation to FR 73 and proceeds approximately 0.6 miles to the national forest boundary.

Phase 1 and 2 of the Anthony Lakes Highway Project, totaling approximately 13 miles, is currently under construction. Roadwork completed in the first two phases will improve highway alignment and pave to a total road width of 28 feet, from the Haines city limit to the east end of the North Powder River bridge (mile post [MP] 12.7). Phase 3 of the project proposes to continue roadwork over the bridge to the boundary of the Wallowa-Whitman National Forest. The total length of phase 3 is approximately 2.5 miles (see project map, figure 2).

Baker County owns and maintains the Anthony Lakes Highway from the Haines city limit to its intersection with the Lower Gorham Butte Road at MP 14.7. The U.S. Forest Service (Forest Service) owns and maintains FR 73 from the Lower Gorham Butte Road intersection through the national forest. Baker County will take over ownership and maintenance of the entire project route following project completion. The Oregon Department of Transportation (ODOT) contracts snow plowing from the North Powder River Bridge to the Sno-Park at the Anthony Lakes Recreation Area through the winter Sno-Park Program.

Scope and Nature of Proposed Work

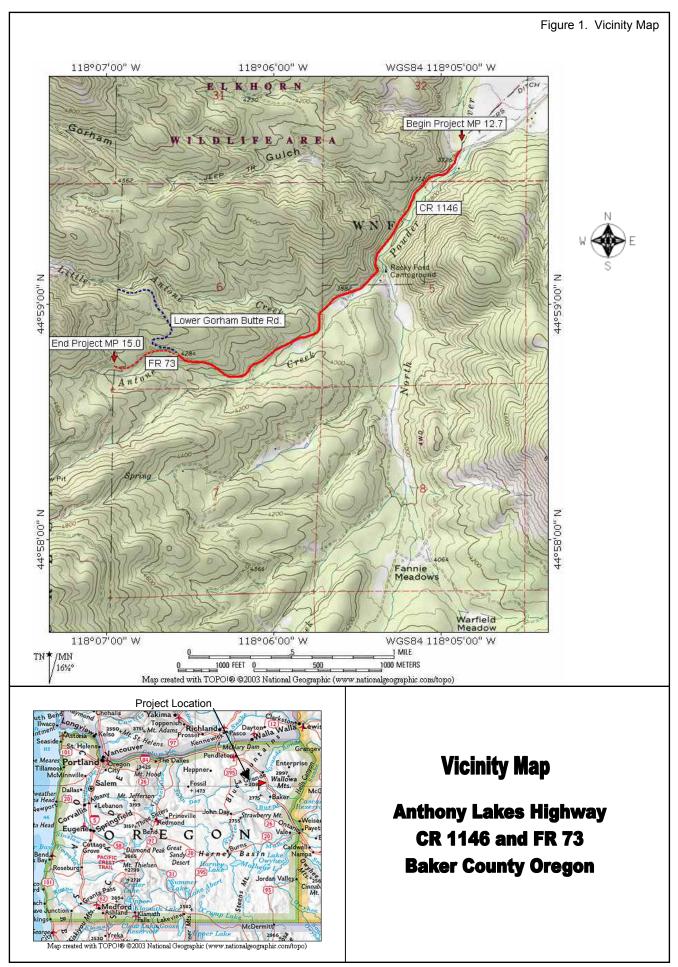
The intent of the proposed project is to:

- Improve roadway structure to provide a durable road surface that supports current and projected highway uses.
- Upgrade roadway width and alignment to conform to the geometric design standards in the American Association of State Highway and Transportation Officials (AASHTO) Policy on Geometric Design for Rural Major Collectors.
- Incorporate current roadway design and safety features to improve highway safety performance.
- Improve roadway and roadside conditions that have led to erosion problems throughout the project route.

Funding

The proposed project would be funded through the Public Lands Highway Program, which is part of the Federal Highway Trust Fund. Money from this program is available to aid public agencies such as county and state transportation departments in providing safe, efficient public roads that serve national forest-related traffic. To qualify for this program, a road must be located within or adjacent to a national forest and be essential for the protection, administration, and utilization of the forest and its resources. In Oregon, the Western Federal Lands Highway Division (WFLHD), Forest Service, and ODOT jointly select projects to be funded under the Public Lands Highway Program. The ODOT represents the interests of counties that have nominated projects for funding.

The proposed project is currently scheduled to begin construction in 2006. Federal funding available for this project is \$ 2.5 million. Baker County would coordinate and finance all needed right-of-way acquisitions.



PURPOSE AND NEED FOR THE PROJECT

Purpose and Need

The Anthony Lakes Highway is a two-lane rural major collector route that serves a range of traffic types. The road is the primary access route from the east to the Anthony Lakes area of the Wallowa-Whitman National Forest. It is also part of the Elkhorn Drive National Forest Scenic Byway, which provides a loop drive from Baker City through the Elkhorn Mountains and to the historic communities of Sumpter and Granite. The route also serves as access to the Anthony Lakes Mountain Resort and Ski Area. The project route receives year-round use, with the highest levels occurring in the winter and on weekends in connection with the Anthony Lakes Mountain Resort. According to the Forest Service, highway use has been increasing since its designation as a Scenic Byway in 1989. Use of the highway is expected to increase further with implementation of Baker County's rural economic development strategy emphasizing growth in the tourist industry, and the proposed Anthony Lakes Mountain Resort expansion.

The original pavement on this portion of the Anthony Lakes Highway was placed nearly 30 years ago. The existing asphalt pavement is in fair to poor condition, with an extensive amount of block cracking, longitudinal cracking, and raveling. The rutting and potholes in the pavement prevent proper roadway drainage, which can create standing water and lead to icy conditions in the winter. The rough pavement has the potential to damage vehicles, and inconsistent road width and potholes could cause motorists to lose control of their vehicles and swerve off the roadway or into oncoming traffic.

The grade of the project route is very steep (up to 13%) just east of the national forest boundary. The horizontal alignment is generally winding, with sharp curves, some having limited sight distance. The curve at MP 14.3 is frequently the site of accidents, especially during the winter months. The paved road width is inconsistent and varies from 18 to 22 feet with gravel or partially paved shoulders of 2 feet or less. Steep embankment slopes, especially those adjacent to the river, do not have guardrails and are potentially hazardous. Rock fall onto the road from existing steep rock cuts is also a problem.

Road improvements are needed in the phase 3 area of the Anthony Lakes Highway based on:

- The level of use and importance of the route, which is the primary access from the east to the Anthony Lakes area, part of the Elkhorn Drive National Forest Scenic Byway, and access to the Anthony Lakes Mountain Resort.
- The continuing increase in road use due to implementation of the Baker County rural economic development strategy emphasizing growth in tourism and the proposed expansion of the Anthony Lakes Mountain Resort.
- The poor condition of the existing roadway due to cracking, rutting, and poor drainage of the road surface, and inconsistent road width, steep grades, and sharp curves.
- Lack of guardrails on steep embankments and adjacent to the river. Safety concerns from rock fall
 onto the roadway, poor roadway drainage that may lead to icing conditions, and potholes that
 could cause motorists to loose control of their vehicles.

Based on the identified transportation needs, the purpose of the proposed road improvement project is to:

- Correct existing road surface deficiencies that create operational problems and result in high maintenance costs.
- Upgrade roadway width and alignment to conform to the geometric design standards in the AASHTO Policy on Geometric Design for Rural Major Collectors or ODOT Highway Design Manual (depending on alternative).
- Improve highway safety performance by correcting road safety deficiencies.
- Provide an efficient transportation route to the national forest for current and projected uses.

Existing Road Conditions

According to WFLHD records (Geotechnical report 7-98), the original pavement on the phase 3 portion of Anthony Lakes Highway was placed close to 30 years ago. The paved road width is inconsistent, and varies from 18 to 22 feet, with gravel or partially paved shoulders of 2 feet or less. The existing asphalt pavement is in fair to poor condition, with an extensive amount of block cracking,





longitudinal cracking, and raveling. Some shorter segments exhibit both longitudinal cracking and rutting up to 2 inches, indicating subgrade failure and possible frost heaving. The rutting and potholes in the pavement prevent proper roadway drainage, which can create standing water conditions. The openings in the pavement surface allow water to saturate the road causing weakening of the subbase material and possible permanent damage. The Baker County pavement management system uses a pavement condition index (PCI) to rate pavement condition. The proposed project route currently has a PCI rating of 36, which is well below both the county average (PCI=56) and the ODOT minimum standard (PCI=70). These conditions cannot be repaired with normal maintenance.



The terrain throughout most of the proposed project route is mountainous, and the road grade is very steep (up to 13%) just east of the national forest. As the road descends, it follows the river valley and the grades become gentler. The horizontal alignment of the road is generally winding, with sharp curves, some having limited sight distance. The curve at MP 14.3 is frequently the site of accidents. Overall, the road alignment is typically adequate for speeds of 35-45 mph.



The road is constructed on a bench cut into both the Antone Creek and North Powder River valley walls. The road physically encroaches into the North Powder River in two locations. At MP 12.8 and 13.4, the road and steep river valley encroach on the north side of the North Powder River, forcing the river to turn 90 degrees to the northeast. Due to the close proximity of the road to the river, riprap has been placed to protect the road embankment, which is shared with the riverbank. Other than the very steep fill slope at this location, current road fills appear to be stable.

At MP 13.6, the road is sandwiched between a steep rock cut and the steep side slopes of Antone Creek. Rock-fall onto the road has been a problem at this location. There are no rock-fall ditches



along the existing roadway to catch rock dropping off the steep rock cuts. Slough and ravel material from over-steepened soil cutslopes fills the roadside drainage ditches in various locations. Fine sediment delivery from the road and ditches into adjacent waterways is a continual problem.

The culvert at MP 13.7 is located on a horizontal curve just uphill from an adjoining driveway. The culvert is at a skewed angle to the road alignment. There is a scour hole at the inlet of the culvert, and the outlet is partially filled and blocked by debris. The erosion potential at this location is high.

The bridge over the North Powder River was constructed in 1978 and is in good physical condition; however, existing transition and bridge railings along the terminal sections do not meet standards. The east end rail has been damaged by a collision and some damage has occurred to the back wall. The pavement approaches from the east and west have settled, forming wide cracks in the asphalt surface. The waterway alignment, approach alignment, structural components, and deck geometry equal or exceed present standards.

Road striping along the proposed project route is inconsistent, and some areas have no striping at all. For the most part, the clear zone (the unobstructed, relatively flat area provided beyond the edge of the traveled way for the recovery of errant vehicles) along the route is adequate; however, there are areas that have clear zone obstructions. Steep embankment slopes are not protected with guardrail, creating a potentially hazardous situation.

Current and Projected Road Use

The Anthony Lakes Highway is a two-lane rural major collector route that serves a range of traffic types. It is used commercially for forestry and tourism, privately for recreation and property access, by government services such as postal and school bus services, and by government agencies for land and resource management activities. The main types of vehicles using the road are trucks, cars, and buses. The Forest Service estimates that 54% of the traffic on the entire Anthony Lakes Highway is national forest-related; however, on the phase 3 portion of the highway it is estimated that 90% of the traffic is national forest-related.

The Anthony Lakes Highway is used year-round, with the highest levels occurring in the winter and over the weekends in connection with the Anthony Lakes Mountain Resort. According to the Forest Service, use of the highway has been increasing since its designation as a National Forest Scenic Byway in 1989. Use is also expected to increase further with implementation of Baker County's rural economic development strategy for growth in the tourism industry, and the proposed expansion of the Anthony Lakes Mountain Resort.

The main land uses in the vicinity of phase 3 of the Anthony Lakes Highway are forestry, recreation, and wildlife-related activities. Timber harvest has decreased in the Anthony Lakes area from a high of 5.0 million board feet (MMBF) in the mid 1970's to the current level of 0.5 - 2.0 MMBF. This level of harvest is expected to remain stable into the foreseeable future. Much of the timber harvested in the area is transported over the Anthony Lakes Highway.

The current recreational uses in the area include downhill and cross-county skiing, snowmobiling, camping, fishing, hiking, mountain biking, hunting, picnicking, and scenic driving. There are two gravel pullouts located directly west of the North Powder River bridge that are currently used year-round for parking by recreationists. The pullouts are not formalized and are difficult to plow in the winter. Of the land uses in the area recreation is expected to experience the greatest growth, due mainly to travel on the Scenic Byway, the Baker County initiative on development of tourism, and the proposed expansion of the Anthony Lakes Mountain Resort. The Forest Service estimates that the current level of recreational use in the area is approximately 60,000 recreation visitor days per year (RVD/year). Projected future use has been estimated at 70,000 RVD/year; however, if the proposed Anthony Lakes Mountain Resort expansion is built as planned, annual recreational use is estimated to grow to approximately 100,000 RVD/year in the next 20 years. Since the Anthony Lakes Highway is the primary access to the area from the east, use of the highway is expected to increase proportionate with the increase in recreational use.

The Elkhorn Wildlife Management Area borders phase 3 of the proposed Anthony Lakes Highway project to the north. The Oregon Department of Fish and Wildlife (ODFW) manages the area for big game habitat and a winter feeding program. The area receives recreational use year-round, but is primarily used during hunting season. Use of the area is not expected to change in the foreseeable future.

The following traffic volumes were calculated by the Forest Service, based on current and projected recreational use in the area, plus 15% for trips by residents and ski area employees.

Table 1. Traffic Volumes on Anthony Lak	(es Highway (Phase 3)
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	1997	2000	2026 (projected)
ADT N. Powder River Bridge National Forest Boundary	165		450
	116		320
AADT N. Powder River Bridge		179	440
National Forest Boundary		126	310
SADT		320	780

(Source, U.S. Forest Service. SADT for 2000 is calculated based on 39,605 visitors to Anthony Lakes Mountain Resort, between 11/15/1999 and 4/30/2000 on 4 of 7 days of the week, using an average of 3 persons per vehicle, each vehicle making a return trip, plus 15% for use by residents and employees of the ski area. AADT for 2000 at the national forest boundary is calculated based on 60,000 RVD/yr, 3 persons per vehicle all return trips in winter and 75% return trips during other seasons, plus 20% for use by residents. Projections are based on an expected doubling of the capacity of the ski area. The traffic volume growth rate is projected at 3-4% per year)

Summary

The roadway along phase 3 of the Anthony Lakes Highway is in fair to poor condition, and surface width is inconsistent and inadequate for current and projected traffic volumes. Just east of the national forest boundary, the road grade is steep and the curves are sharp. Guardrail and other safety features are either non-existent or do not meet current standards for a rural major collector road classification. The highway encroaches on the North Powder River in two places, and erosion from the road into waterways is an ongoing concern. The guardrail system on the North Powder River bridge does not meet current standards.

Traffic volumes on the Anthony Lakes Highway have increased since the road was designated a National Forest Scenic Byway in 1989. Use is expected to increase further with implementation of Baker County's rural economic development strategy for growth in the tourism industry and the proposed expansion of the Anthony Lakes Mountain Resort.

Major problems with the roadway along phase 3 of the Anthony Lakes Highway:

- The existing asphalt pavement is in fair to poor condition. The PCI rating is well below both the county average and the ODOT minimum standard.
- The paved road width is inconsistent, with gravel or partially paved and narrow shoulders.
- Pavement in some road segments exhibits both longitudinal cracking and rutting, indicating subgrade failure and possible frost heaving.
- Rutting and potholes prevent proper roadway drainage and create standing water conditions, which cause saturation and damage to the road base and can worsen icy surface conditions.
- Deteriorating surface conditions cannot be repaired with normal road maintenance and create operational problems and high maintenance costs.
- The road grade just east of the national forest boundary is very steep and combines with several sharp curves to create limited site distance and safety hazards.
- Existing rock cuts and over-steepened soil cutslopes result in rock-fall problems on the roadway and erosion and instability on some cutslopes.
- Steep embankments do not have guardrails, increasing the potential for serious accidents.
- The rail system components on the North Powder River Bridge do not meet current standards.
- Fine sediment delivery from the road into adjacent waterways is a continual problem.

Based on the identified transportation needs and deficiencies, the objectives of the proposed road improvement project are to:

- Correct existing road surface deficiencies that create operational problems and result in high maintenance costs.
- Upgrade roadway width and alignment to conform to the geometric design standards in the AASHTO Policy on Geometric Design for Rural Major Collectors or ODOT Highway Design Manual.
- Improve highway safety performance by correcting road safety deficiencies.

ALTERNATIVES TO BE CONSIDERED

Introduction

The following alternatives for the improvement of phase 3 of the Anthony Lakes Highway were developed by WFLHD using ODOT and AASHTO standards, with input from the Baker County Road Department and the U.S. Forest Service.

The WFLHD typically develops projects to meet the AASHTO *Policy on Geometric Design of Highways and Streets* (2001); however, the standards of the public road agency in charge of the facility can also be used. Since Baker County does not have its own 3R standards, the ODOT Highway Design Manual standards will be used as reference for the 3R alternative, while the reconstruction alternative will be designed to meet AASHTO standards for a rural collector road of 750 ADT or less. The projected SADT in 2020 for phase 3 of the Anthony Lakes Highway is 640. AASHTO policy allows exceptions for roads that experience highly seasonal fluctuations in traffic flow such as that experienced on the Anthony Lakes Highway. In these cases, AASHTO policy states "Economy may dictate a design that results in somewhat less satisfactory traffic operation during seasonal peaks than on rural roads with normal fluctuations, but the public will generally accept such conditions. Some congestion may be experienced by traffic during peak hours, but the capacity should not be exceeded."

Proposed alternatives fall into three categories: No Action, 3R Alternatives, and Reconstruction Alternatives:

3R - Resurface, Restore and Rehabilitate Alternative

The FHWA identifies four basic types of physical road improvement projects: New Construction, Reconstruction, 3R, and Maintenance. Projects classified as 3R focus primarily on the preservation and extension of the service life of the existing facility and on safety enhancements. The 3R classification includes the following improvements:

- Resurfacing
- Pavement structural and joint repair
- Minor lane and shoulder widening
- Minor alterations to vertical grades and horizontal curves
- Bridge repair
- Removal or protection of roadside obstacles

Because 3R projects generally do not involve more than minor changes to roadway alignment and geometry, except to improve safety, WFLHD and the State departments of transportation acknowledge that the AASHTO design criteria do not always have to be adhered to for these projects. For projects of this type, where major revisions to horizontal and vertical curvature are not necessary or practical, existing design values may be retained.

Reconstruction Alternative

Reconstruction typically involves a major change to an existing highway within the same general right-of-way corridor. Reconstruction may involve making substantial modifications to horizontal and vertical alignment in order to eliminate safety and accident problems. It can involve a major change in roadway appearance.

Alternative 1: No Action

Under the No Action alternative, no improvements would be made to the phase 3 section of the Anthony Lakes Highway. The highway would not be resurfaced, structural enhancements would not be made, sharp curves would not be realigned, and safety features would not be added. Routine road maintenance would continue; however, the road deficiencies that cannot be corrected through maintenance would continue to cause deterioration of the roadway.

The No Action alternative would not meet the objectives of this project. Motorist safety would continue to be compromised due to the lack of safety features along the roadway. Given the anticipated increase in traffic volume, lack of safety features, and continued deterioration of the road surface, the potential for accidents is likely to increase if this alternative were chosen.

Alternative 2: 3R - Uniform 22-foot Road Width, No Realignment

This alternative proposes to resurface, restore, and rehabilitate (3R) the phase-3 portion of the Anthony Lakes Highway (CR 1146) from the North Powder River bridge to the junction of the Lower Gorham Butte Road. The remainder of the project route (FR 73), from the Lower Gorham Butte Road junction to the national forest boundary, would be resurfaced only. Design standards used for this alternative would be based on the ODOT Highway Design Manual for rural collector roads with an ADT below 750, with exceptions. The design speed would be 35 mph.

Under this alternative, the existing 22-foot width of the CR 1146 portion of the project route would be retained, and narrow areas caused by sloughing pavement would be widened as necessary to maintain a consistent width. The roadway would consist of two 9-foot travel lanes with two-foot paved shoulders (see figure 2 for typical roadway section). Structural deficiencies in the road base and subbase would be repaired, and the road would be resurfaced. There would be some minor grade and alignment changes and widening of curves to meet ODOT highway design standards; however, the existing road alignment and grade would remain essentially the same. The existing culverts and water crossings would be replaced as needed to accommodate high-water runoff, and a fish-passage culvert would be constructed on Little Antone Creek. The intersection of FR 73 and the Lower Gorham Butte Road would be reconstructed, and the slope between the two roads would be stabilized. The short section of the Lower Gorham Butte Road between the intersection and the first switchback would be reconstructed to accommodate the intersection reconstruction and slope stabilization.

The existing pavement on the FR 73 section of the project route would be evaluated by WFLHD engineers to determine if strengthening by cold-in-place (CIP) recycling is required or whether new pavement can merely be laid on top of the existing pavement. The CIP method uses specially designed equipment to detach and mill the upper 3 to 4 inches of the existing road surface; then emulsified asphalt is added to the milled material and laid back onto the roadway. Following this process, an additional layer of new hot-mixed asphalt concrete may be placed on top of the recycled material to complete the pavement structure if needed to bring the total pavement thickness up to the amount required to support traffic for the design life of the pavement.

Under this alternative, the informal parking area opposite the entrance to the Elkhorn State Wildlife Area would be paved. Traffic signs would be improved and guardrails installed where warranted. The rail system components on the North Powder River bridge would be upgraded to meet current safety standards. Retaining walls on the fill-side of the road may be needed in a few areas along CR 1146. The exact location and size of retaining walls would be determined by WFLHD geotechnical analysis. Rock fall from the decomposing granite found in the cutslopes throughout the project route has been an on-going problem in several locations. The construction of structures such as rock fall ditches, jersey barriers, and rock fall fences would be considered to prevent rock from rolling onto the roadway in these locations. Unstable, steep soil cutslopes would be stabilized using biotechnical erosion control methods (such as seeding of native plants, terracing or live facines) or rip rap buttresses.

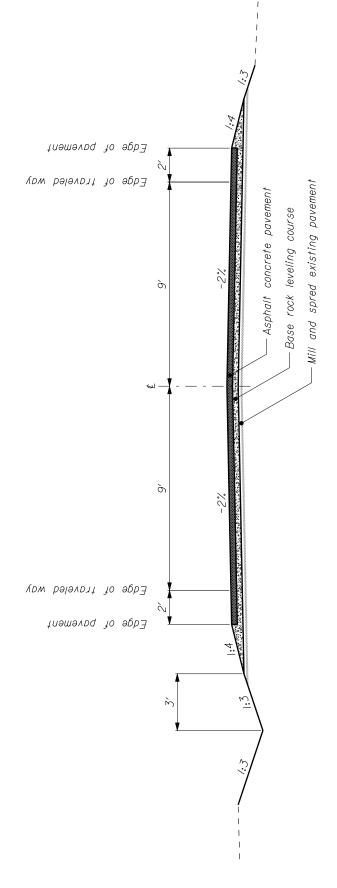
Construction activities involved in this alternative include clearing, subexcavation, restoring road crown and superelevation, minor cuts and fills, grading, installation of culverts, laying road base, possible wall construction, road stripping, and revegetation of disturbed areas. Revegetation would be performed using native plant species.

The cost of this alternative would be approximately \$ 1.5 million.

This alternative would partially meet project objectives; however, not all of the sharp curves would be realigned nor would the steep grade coming off the national forest be corrected. Under this alternative, the road width of 22 feet would be narrower than the finished width of phase 1 and 2 of the Anthony Lakes Highway (28 ft) and the adjoining road above the national forest boundary (24 ft.). An abrupt change in road width can be a safety problem if other visual indications, such as a change in surrounding topography, are not present.

OR PFH 133–1(3) ANTHONY LAKES HIGHWAY BAKER COUNTY

TYPICAL SECTION ALTERNATIVE II



Alternative 3: Reconstruction – 24-foot Road Width, Minor Realignment

This alternative proposes to reconstruct the phase-3 portion of the Anthony Lakes Highway from the North Powder River bridge to the junction of the Lower Gorham Butte Road. The remainder of the project route, from the Lower Gorham Butte Road junction to the national forest boundary, would be resurfaced only. Design standards used for this alternative would be based on the AASHTO *Policy on Geometric Design of Highways and Streets* (2001) for rural collector roads with an ADT below 750, with exceptions. The design speed would be 35 mph.

Under this alternative, the CR 1146 portion of the proposed project route would be reconstructed to a total width of 24 feet, consisting of two 10-foot travel lanes with two foot paved shoulders (see figure 3 for typical roadway section). Structural deficiencies in the road base and subbase would be repaired, and the road would be resurfaced. Hazardous curves would be realigned and widened, and steep grades would be reduced. To correct existing road deficiencies, minor alignment changes are likely from station 335+00 to station 345+00, and major alignment changes (nearly 65 feet) are likely from station 370+00 to station 395+00. Alignment adjustments adjacent to the North Powder River (station 300+00 to 345+00) would move into the hillside, with new cuts in these locations ranging in height from 30 feet to 90 feet. The existing road grade of 13% between station 370+00 and station 395+00 would be reconstructed to approximately 9.5%, improving the safety and drivability of this section of road. The preliminary road alignment for this alternative is displayed in Figure 4, drawings D.2 through D.6. The drawings begin at the North Powder River bridge and progress west, covering the entire project route. The solid red line represents the centerline of the proposed road alignment, which is superimposed over the existing roadway in gray. The existing culverts and water crossings would be replaced as needed to accommodate high-water runoff, and a fish-passage culvert would be constructed on Little Antone Creek.

As in Alternative 2, the intersection of FR 73 and the Lower Gorham Butte Road would be reconstructed, and the slope between the two roads would be stabilized. The short section of the Lower Gorham Butte Road between the intersection and the first switchback would be reconstructed to accommodate the intersection reconstruction and slope stabilization.

This alternative would also involve paving the informal parking area opposite the entrance to the Elkhorn State Wildlife Area. Traffic signs would be improved and guardrails would be installed where warranted. The rail system components on the North Powder River bridge would be upgraded to meet current standards. Retaining walls would be constructed along the fill-side of CR 1146 as needed to gain road width and stability. Walls may also be constructed on the uphill side of CR 1146 to allow for a steeper cutslope and thus reduce the height of the road cut. Walls would be treated to visually blend with the surrounding landscape. Rock fall structures would be constructed in problem areas and unstable soil cutslopes would be stabilized using biotechnical erosion control methods or riprap buttresses.

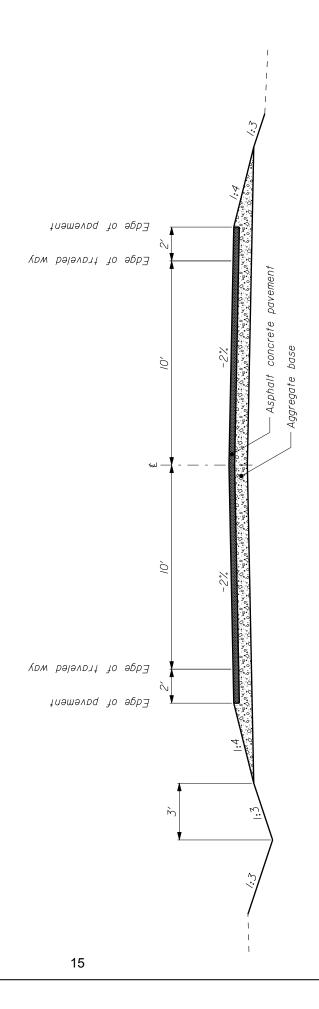
Construction activities involved in this alternative would be the same as Alternative 2 except that some major cuts would be constructed in the sections of the road being realigned.

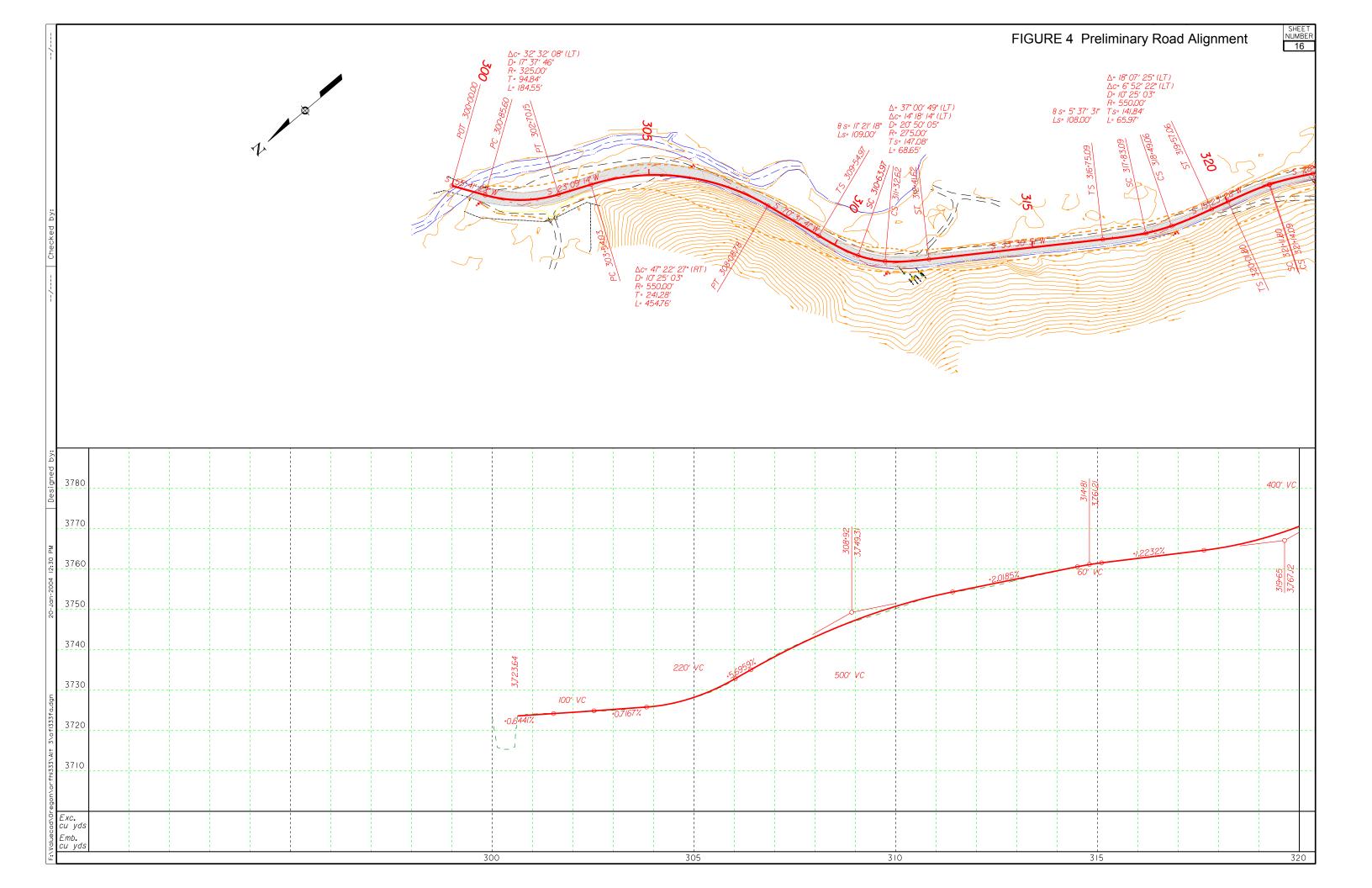
The cost of this alternative would be approximately \$ 2.5 million.

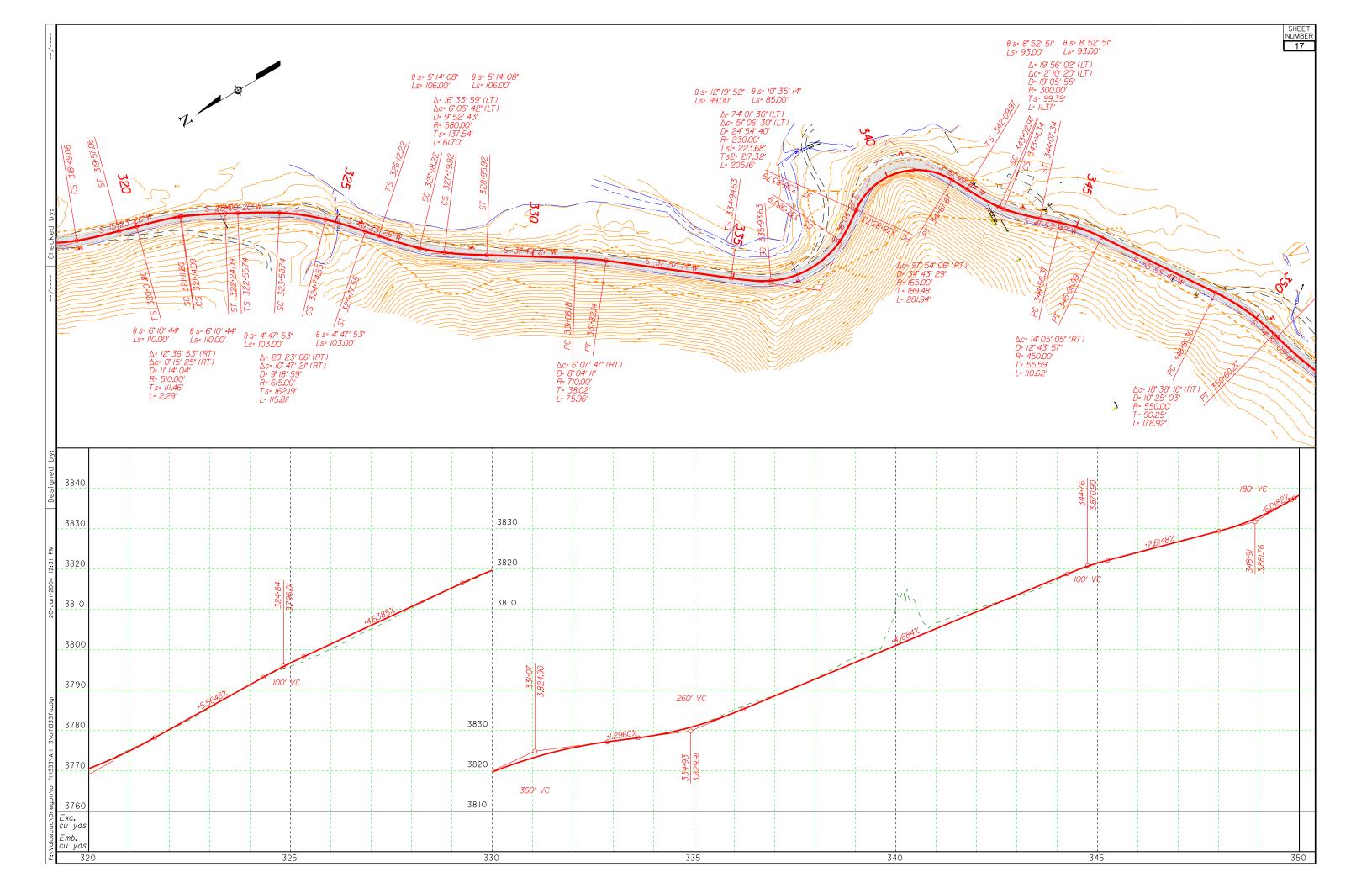
This alternative would meet all project objectives. The road width of 24 feet would be narrower than the finished width of phase 1 and phase 2 of the Anthony Lakes Highway (28 ft), but it would be the same as the adjoining road above the national forest boundary.

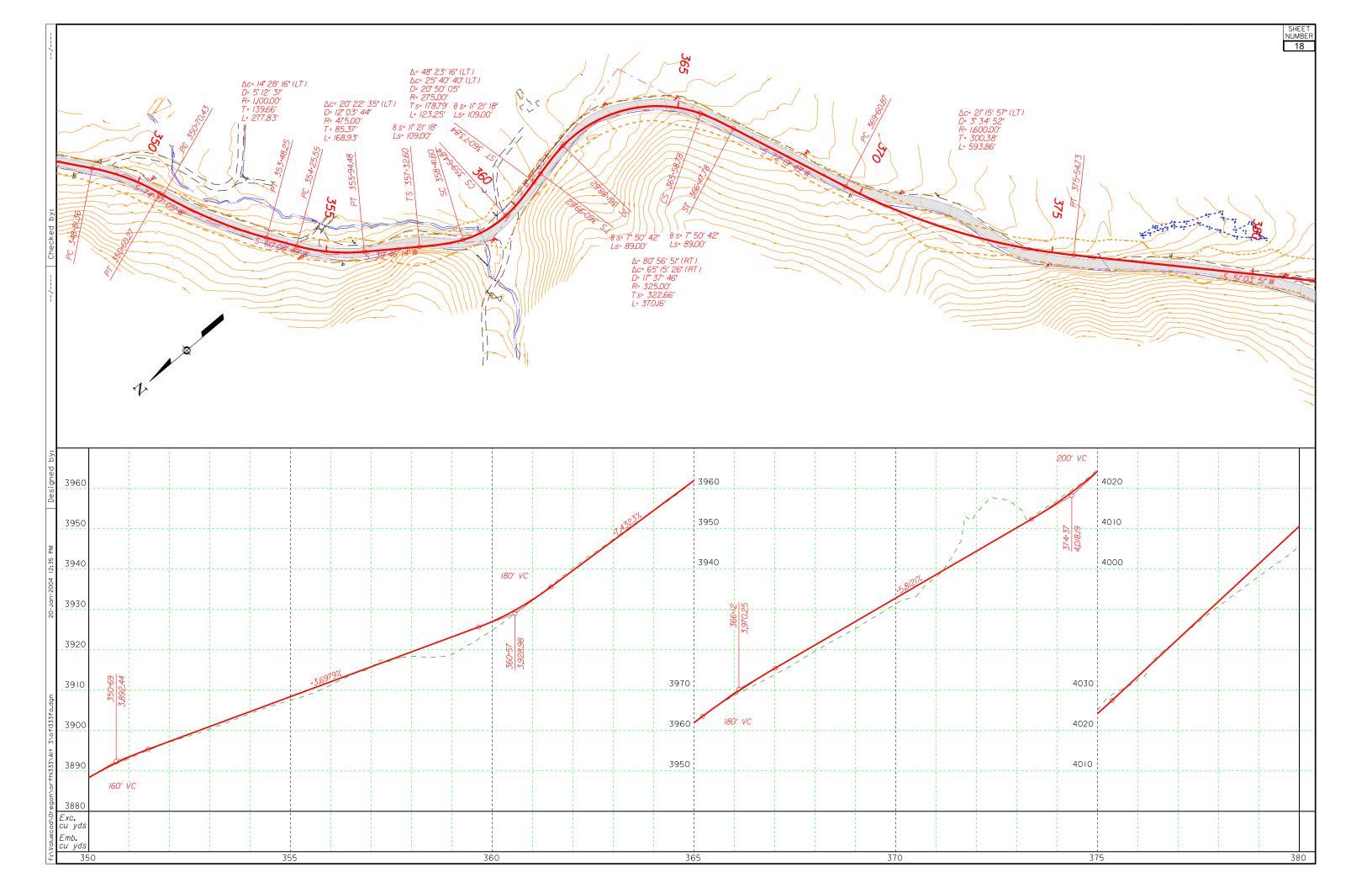
OR PFH 133–1(3) ANTHONY LAKES HIGHWAY BAKER COUNTY

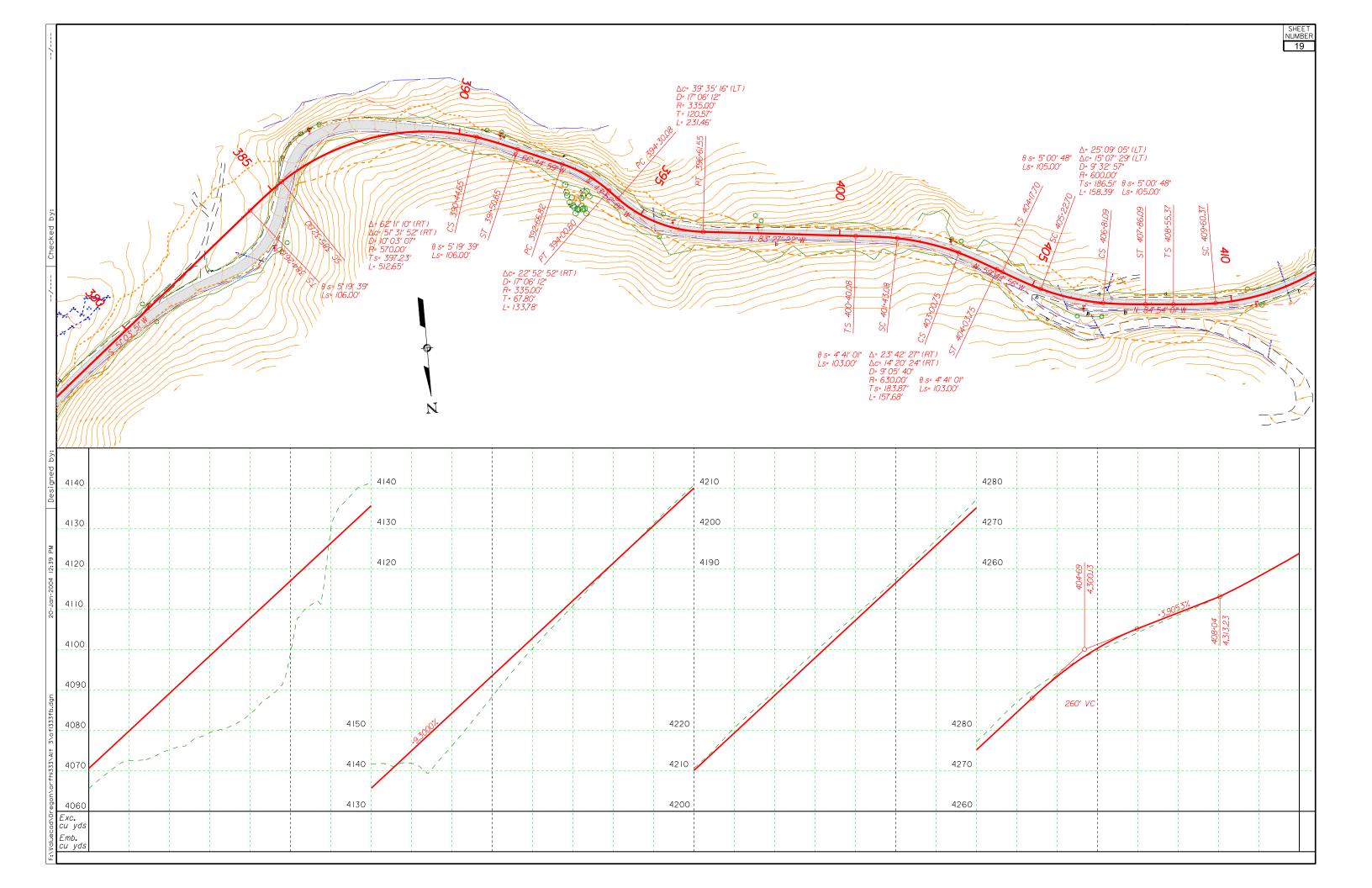
TYPICAL SECTION ALTERNATIVE III

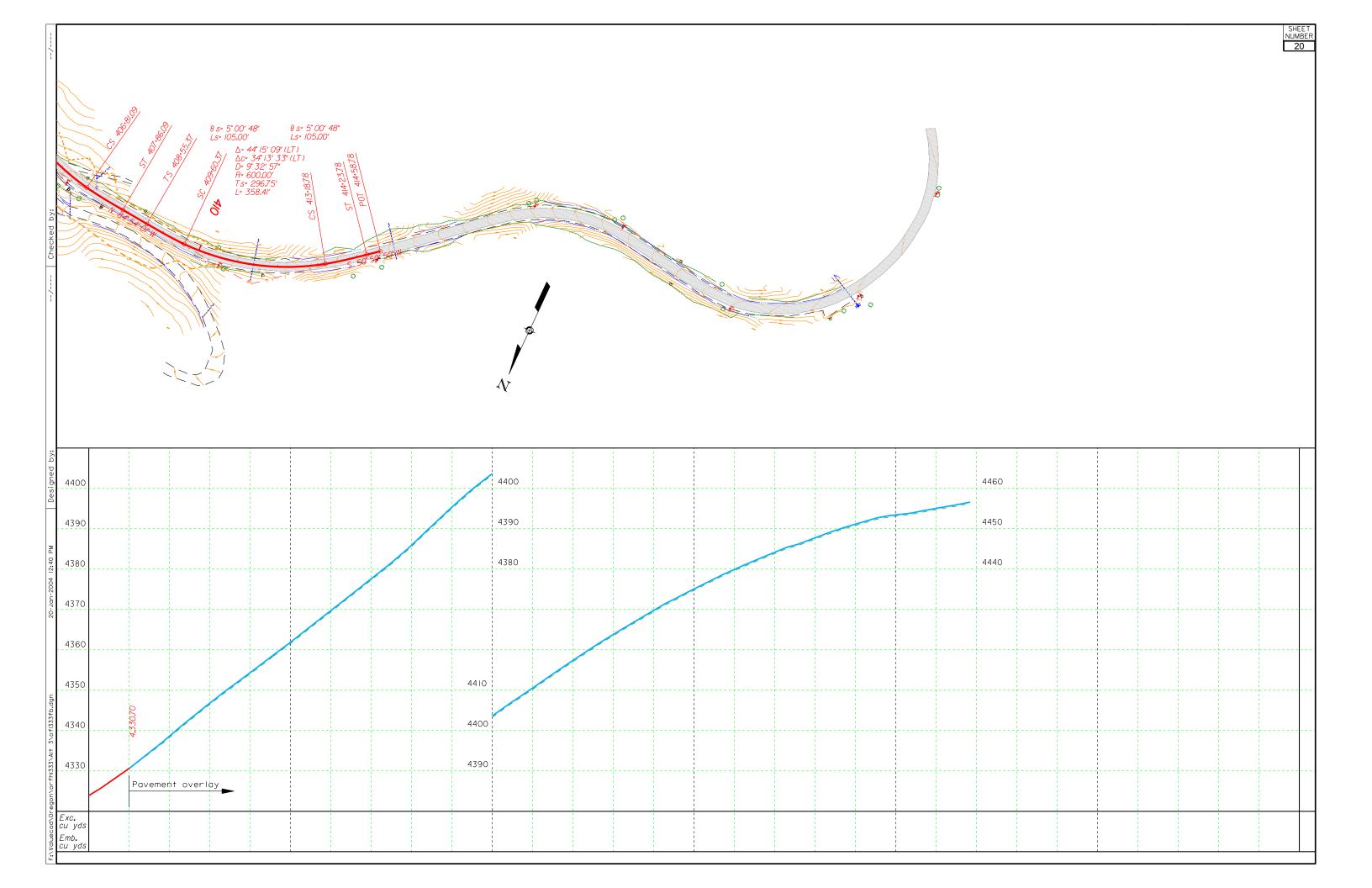












Alternatives Considered But Not Developed Further

Reroute Road for Proposed Dam:

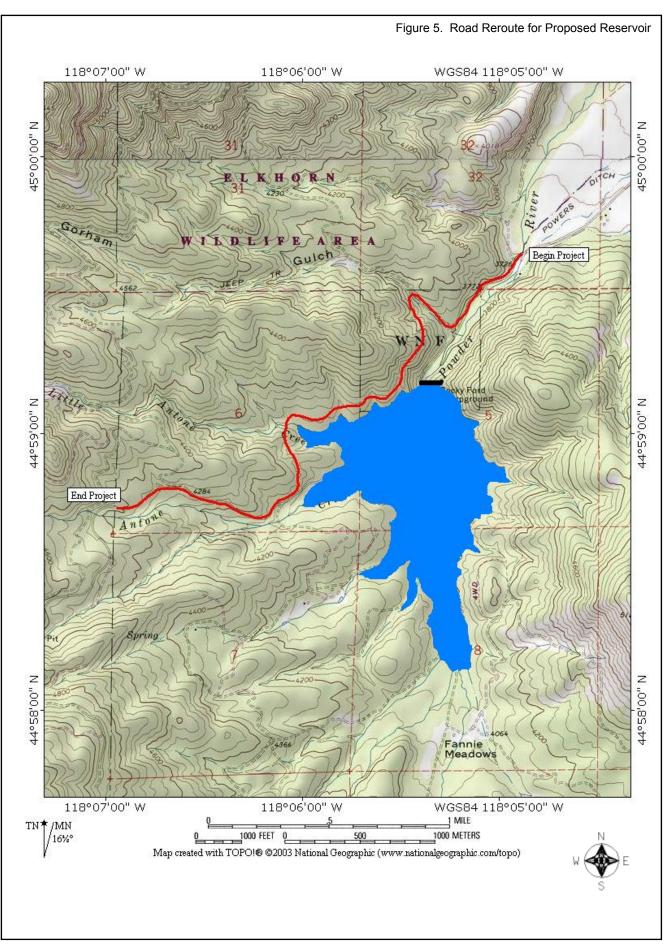
In the 1960's, the Powder Valley Water Control District proposed to build a dam to be located on the North Powder River just below its confluence with Antone Creek. The resulting reservoir would inundate close to 1 mile of the existing Anthony Lakes Highway route upstream of the proposed dam site. Figure 5 shows the approximate location of the proposed reservoir and an approximate reroute location for the Anthony Lakes Highway to accommodate the reservoir and dam complex. The highway reroute would involve nearly 2 miles of new road construction, beginning in the vicinity of Gorham Gulch.

According to the Oregon Water Resources Department, the water control district has not completed the necessary applications needed for state approval of the project. Due to the extensive amount of time necessary to obtain the required state and federal clearances for the proposed dam and reservoir project and the uncertainty of its approval, plus the significant environmental impact and cost involved in constructing a new highway route, the WFLHD does not believe that it would be practical to consider rerouting the Anthony Lakes Highway at this time.

Reconstruct Road to a 28-Foot or 32-Foot Width:

AASHTO recommends a 32-foot width for roads having the characteristic use of the Anthony Lakes Highway. Phases 1 and 2 of the project were built using the Baker County standard of 28 feet for reconstruction. The highway segment at the end of phase 3, above the national forest boundary, was built using the Forest Service standard of 24 feet.

The terrain along the Anthony Lakes Highway changes abruptly from the open, rolling agricultural land where the phase 1 and 2 portions of the road are located, to a narrow, moderately steep canyon directly adjacent to a river, where the phase 3 portion of the road is located. Widening the existing 22-foot highway to 28 feet or 32 feet through the steep restricted environment would involve extensive road cuts, high walls between the river and the roadway, major clearing of mature trees and other vegetation along the road corridor, and a lengthy disruption of the lives of the people living adjacent to or using the project route. Construction of this degree would be costly and would involve significant environmental and social impacts; therefore, the WFLHD does not believe it is feasible to consider widening the phase 3 portion of the Anthony Lakes Highway to either 28 or 32 feet.



ENVIRONMENTAL SETTING

Physical Setting

The phase 3 section of the Anthony Lakes Highway begins at the North Powder River bridge, where the agricultural lands of the Powder River Valley transition into the mountains of the Elkhorn Range. The proposed project route winds along moderately steep side slopes adjacent to the north bank of the North Powder River and Antone Creek before climbing steeply to the national forest boundary. Over the two-mile length of the project route, the elevation climbs from 3720 feet at the North Powder River bridge to 4400 feet at the national forest boundary.

The project route is located in the Blue Mountains Province of northeastern Oregon, which consists of several mountain ranges separated by faulted valleys and synclinal basins. The mountainous areas include the Ochoco, Blue, and Wallowa Mountains, as well as the Strawberry, Greenhorn, and Elkhorn ranges (Franklin and Dyrness 1988). The soils within the project area were formed predominantly under forest vegetation. The Soil Survey of the Baker County Area (NRCS 1999) identifies seven soil types, mostly gravelly silt loams, along the project route. They include Dogtown very stony loams, Highhorn huntrock very gravelly silt loams, Ladd loam, and Tolo dogtown complex.

The climate in the area is relatively dry, with much of the annual precipitation falling as winter snow, and rainfall usually coming in brief, high intensity showers during the summer months. The average annual precipitation in the project area is approximately 20 inches at the lower end of the project (Oregon Climate Service, Rock Creek Station 1920-2002) and increases with elevation. Minimum temperatures plunge to below zero degrees Fahrenheit (F) in the winter. In spring, precipitation decreases and temperatures begin to rise. By late June to early July, much of the winter snowpack has melted except in the highest elevations. Temperatures during the hot, dry summer occasionally exceed 100 degrees F in the lower elevations. The winter storm cycle usually begins in early October.

Threatened and Endangered Species

No currently listed threatened or endangered wildlife species are known to occur in the general project vicinity; however, threatened, endangered, proposed, and candidate species (TEPC) that could occur in the general project vicinity are Canada lynx (Lynx canadensis), bald eagle (Haliaeetus leucocephalus), bull trout (Salvelinus confluentus), and Howell's spectacular thelypody (Thelypodium howellii spectabilis), all of which are listed as threatened (U.S. Fish and Wildlife Service [USFWS] April 2003). Two candidate species, the Columbia spotted frog (Rana luteiventris) and skinny moonwort (Botrychium lineare), possibly occurring in the area. The TEPC species, along with species included on the U.S. Forest Service Region 6 Sensitive Species list are listed in table 2. Although the Forest Service inventoried this portion of the highway, specific surveys to determine the presence/absence or numbers of proposed, threatened, endangered, candidate, species of concern, management indicator species (MIS), state-sensitive, or neotropical birds were not performed as part of the analysis. One sighting of a bald eagle was reported further up the Anthony Lakes Highway road several years ago. Other than that, no confirmed sightings of proposed, endangered, or threatened wildlife species have been recorded in the vicinity of the project area. The Anthony Lakes Highway is not considered primary bald eagle habitat; however, it is possible that eagles could occasionally roost in the vicinity of the highway during the winter. Spotted frogs are known to exist in the general vicinity of the Anthony Lakes Highway; however, not in the area of the proposed project route.

The Canada lynx was listed as threatened in April 2000. Because this section of the Anthony Lakes Highway is below 4,500 feet in elevation and is not within lodgepole pine or subalpine fir, it is not within lynx habitat or within a lynx analysis unit (LAU). The closest LAU is the North Powder/Wolf unit, which is several miles away from the project route. At this time, no lynx are known to exist on the Wallowa-Whitman National Forest or within the State of Oregon. Lynx have been documented on

the Boise National Forest, which is approximately 85 miles to the east and south of the Wallowa-Whitman.

 Table 2. TEPC Species and Forest Service Sensitive Species

Common Name	Scientific Name	Classification
Gray wolf	Canis lupus	Endangered
Northern bald eagle	Haliaeetus leucocephalus	Threatened
Canada lynx	Lynx canadensis	Threatened
California wolverine	Gulo gulo luscus	Sensitive
Fisher	Martes pennanti	Sensitive
Rocky Mtn. bighorn sheep	Ovis canadensis canadensis	Sensitive
Spotted bat	Euderma maculatum	Sensitive
American peregrine falcon	Falco peregrinus anatum	Sensitive
Upland sandpiper	Bartramia longicada	Sensitive
Tricolored blackbird	Agelaius tricolor	Sensitive
Bobolink	Dolichonyx oryzivorus	Sensitive
Bufflehead	Bucephala albeola	Sensitive
Columbia sharp-tailed grouse	Tymphanuchus phasieanellus	Sensitive
Gray flycatcher	Empidonax wrightii	Sensitive
Greater yellowleg	Tringa melanoleucas	Sensitive
Horned grebe	Podiceps auritus	Sensitive
Northern leopard frog	Rana pipiens	Sensitive
Columbia spotted frog	Rana luteiventris	Sensitive
Painted turtle	Chrysemys picta	Sensitive

Other Wildlife

Over 100 non-protected wildlife species use the varieties of habitat found within the vicinity of the project route, including mule deer, elk, migratory birds (i.e. bluebirds, hawks, flycatchers), bats, insects, and woodpeckers (see the analysis file for additional species information). From time to time, these species will cross the highway. Blue grouse are fairly numerous within the area, but are not generally seen on the road, and Merriam turkeys have also been noted in the vicinity. With the number of deer and elk in the area, it is reasonable to assume that cougar can also be found in the vicinity of the project route. Likewise, with the number and variety of small mammals and grouse in the vicinity, bobcats would also be expected to occupy the area, and may occasionally cross the road.

The Anthony Lakes Highway is the dividing line between the ODFW Sumpter and Starkey Big Game Management Units (SBGMU). The state-owned Elkhorn Wildlife Area borders the project route at the North Powder River Bridge. The wildlife area is primarily managed for big game winter range.

Neotropical migratory birds live in a wide variety of habitats. Several species occupy the vicinity of the Anthony Lakes Highway. Neotropical migratory birds are defined as those birds that regularly winter south of the Tropic of Cancer and summer in North America. The numbers of some neotropical migratory birds has been decreasing nationally. The following neotropical bird species are among those that may occur within the vicinity of the highway: Cooper's hawk, mourning dove, western wood peewee, Hammond's flycatcher, Swainson's hawk, American kestrel, olive-sided flycatcher, willow flycatcher, mountain bluebird, chipping sparrow, and the American goldfinch.

Streams and Fisheries

The proposed project route parallels the North Powder River for approximately 0.70 miles from the beginning of the project at the North Powder River bridge to its confluence with Antone Creek. Within this area, the road lies an average of 60 feet from the river (Waldo 2003). Near the confluence,

the river turns south and the road parallels Antone Creek for the next 1.8 miles to the end of the project. Antone Creek lies between 60 and 300 feet from the road in this section of the project route (Waldo 2003). Both Gorham Gulch and Little Antone Creeks cross the project route.

A 1997 spot sample of the North Powder River by ODFW determined that bull trout occupy only the extreme upper reaches of the North Powder River. The lowermost distribution of bull trout in the river is about 9 ½ miles above the North Powder River bridge site (Buchanan et al. 1992). In August of 1994, the Forest Service electroshock surveyed Antone Creek and captured brook and redband trout. There has been no evidence to suggest that bull trout were ever present in Antone Creek.

During field surveys conducted by the Forest Service in the summer of 2002, the low-water flow at Gorham Gulch was estimated to be less than 0.10 cubic feet per second (CFS). This level of flow is too small to support a population of redband trout (Waldo 2003). In addition, the stream gradient of Gorham Gulch, from the North Powder River to the Anthony Lakes Highway, is too steep to allow the passage of redband trout (Waldo 2003).

During field surveys of Little Antone Creek, low-water flow was estimated to be about 1-2 CFS (USFS 2002). The extreme lowermost portion of Antone Creek provides marginal habitat for redband trout. At the time of the field surveys, no redband trout were observed in Little Antone Creek. It appears that two culverts on the private property below the highway could be barriers to fish passage. The landowner replaced the culvert on the private property above the highway with a fish-passage culvert in October of 2002.

Water Quality

The North Powder River is listed on the Oregon Department of Environmental Quality (ODEQ) 303(d) list as not meeting federal water quality standards due to temperature; however, a TMDL (Total Maximum Daily Load) level for the river has not been approved by the Environmental Protection Agency (EPA).

Wetlands

During the spring of 2003, the Natural Resources Conservation Service (NRCS) inventoried the wetlands along the proposed project route. The survey area encompassed approximately 150 feet on each side of the existing highway centerline; however, not all of the area was examined due to limitations on access to some parcels of private property. Within the area surveyed, approximately 3 acres of wetlands were identified, most occurring adjacent to the stream channels along the North Powder River and Antone Creek, and the intermittent stream channels along Gorham Gulch and Little Antone Creek. Less than 0.50 acre of off-stream wetlands were identified within the surveyed area. The off-stream wetlands consisted of five small areas, most of which were located on the isolated ½ section of national forest property.

Vegetation

Vegetation along the project route is made up of conifer forest species in the *Abies grandis* vegetational zone. Major tree species consist of grand fir (*Abies grandis*), ponderosa pine (*Pinus ponderosa*), lodgepole pine (*Pinus contorta*), western larch (*Larix occidentalis*), and Douglas fir (*Pseudotsuga menziesii*). Understory vegetation normally includes common snowberry (*Symphoricarpos albus*), low Oregon grape (*Mahonia repens*), myrtle pachystima (*Pachistima myrsinites*), spirea (*Sirea spp.*), elk sedge (*Carex geyeri*), pinegrass (*Calamagrostis rubescens*), heartleaf arnica (*Arnica cordifolia*), and strawberry (*Frageria virginiana*) (NRCS 1999).

Field surveys for TES plant species in the project area were conducted by the Forest Service in May, August, and September of 2002; no threatened, endangered, or proposed plant species or habitat was discovered during the surveys.

Five inventoried noxious weed sites were located by the Forest Service within the project area. Approximately 9.5 acres of the project area are infested by whitetop (*Cardaria draba*), St. Johns wort (*Hypericum perforatum*), sulfur cinquefoil (*Potentilla recta*), diffuse knapweed (*Centaurea diffusa*) and Scotch thistle (*Onopordum acanthium*). Lower priority noxious weed species such as houndstongue (*Cynoglossum officinale*) and Canada thistle (*Cirsium arvense*) are also scattered along the project route.

Historic Properties

The geographic area that now encompasses the western part of the Wallowa-Whitman National Forest was once occupied by the Cayuse people (Suphan, 1963), and other groups such as the Nez Perce, Umatilla, and Northern Paiute probably used the area during different times of the year. The first Euroamericans in the area were fur trappers from the Canadian Northwest Company and the Pacific Fur Company. Between 1843 and 1865, over 27,500 emigrants passed through the area while following the Oregon Trail. Although the Oregon Trail passes through Baker Valley, the area was not settled until gold was discovered in the early 1860's. During the 1860's to 1870's placer mining was prevalent in the area, but by the 1880's and early 1900's most of the gold extracted came from lode or hard rock mines. The railroad reached the region in the 1880's, linking ranchers to larger cattle markets and allowing timber to be shipped to markets outside of the area.

During the archaeological inventory of the project area, historic cultural properties were found along the proposed project route. The WFLHD has initiated consultation with the Confederated Tribes of the Umatilla Indian Reservation and the Nez Perce Tribe as well as the State Historic Preservation Office. The historic properties are currently being evaluated to determine their significance and the potential impacts of road construction activities.

Recreation

The proposed project route is part of the Elkhorn Drive National Forest Scenic Byway. The Elkhorn Drive National Forest Scenic Byway (also a designated state scenic byway) was designated in 1989 because of the extraordinary scenic and cultural features of the area. The 106-mile loop encompasses Baker City to the east, Granite to the west, the Anthony Lakes basin to the north, and Phillips Lake to the south. Driving for pleasure (sightseeing) is projected to increase in demand by 12.2 percent per year in the State of Oregon (SCORP 1988).

The Anthony Lakes Mountain Resort is located in the Anthony Lake Basin on the Wallowa-Whitman National Forest, approximately 7 ½ miles beyond the end of the proposed project. The resort includes cross-country and downhill ski areas and related facilities for winter day use. The Anthony Lakes Highway provides the only winter access to the ALMR. The route is plowed in the winter to the Anthony Lakes Sno-park through the state sno-park fund.

The Anthony Lake Basin is one of the most popular recreation destinations in the Elkhorn Mountains, for both summer and winter use (USFS 2001). Summer activities include camping, hiking, fishing, picnicking, wildlife and wild flower viewing, swimming, boating, hunting, biking, and ATV use. Winter activities include snow play, downhill, cross-country and backcountry skiing, snowboarding, snowshoeing, and snowmobiling. A portion of the North Fork John Day Wilderness lies adjacent to the Anthony Lakes recreation area. The Elkhorn Crest Trail is a National Recreation Trail extending from the Anthony Lakes area in the north to Marble Creek Pass in the south.

The Elkhorn Wildlife Management Area borders phase 3 of the proposed Anthony Lakes Highway project to the north. The Oregon Department of Fish and Wildlife (ODFW) manages the area for big

game habitat and a winter feeding program. The area receives year-round recreational use, but is primarily used during hunting season.

The phase 3-project route passes through an isolated ¼ section of the Wallowa-Whitman National Forest located approximately 0.25 miles from the beginning of the project. The area provides dispersed camping opportunities, and is mainly used during hunting season.

RELATIONSHIPS WITH OTHER USES AND JURISDICTIONS

Land Ownership

Most of the proposed project route passes through private property, consisting mainly of undeveloped forested land with a few scattered residences. The Elkhorn Wildlife Area, owned and managed by the Oregon Department of Fish and Wildlife (ODFW), is located adjacent to the north side of the highway at the beginning of phase 3, and an isolated ½ section of the Wallowa-Whitman National Forest is located adjacent to the south boundary of the ODFW property. An access road to the Elkhorn Wildlife Area leaves the project route just west of the North Powder River bridge. An undeveloped campground is located on the isolated ½ section of national forest property. Several access roads leading to private property and public lands exit the route throughout the length of the project.

Baker County has jurisdiction over the first 2 miles of the proposed project route, which is designated as County Road (CR) 1146. The last 0.3 mile of the project route, from the junction of the Lower Gorham Butte Road to the nation forest boundary, is under the jurisdiction of the U.S. Forest Service. This portion of the route is designated as Forest Road (FR) 73. The County has deeded right-of-way along the first 0.25 mile of the road, to the boundary of the isolated ¼ section of national forest property; however, beyond this point, the County either does not own right-of-way or the right-of-way does not match the existing alignment of the highway. Baker County is responsible for obtaining the right-of-way needed for completion of the proposed project. The Forest Service portion of the route will be transferred to County ownership upon completion of the project.

Planning by Others

The Forest Service developed the Elkhorn Drive Scenic Byway Management Plan in 1994. The plan outlines opportunities and guidelines for the development of visitor services and facilities along the scenic byway.

The Anthony Lakes Mountain Resort (ALMR) is located in the Anthony Lake Basin on the Wallowa-Whitman National Forest. The resort includes cross-country and downhill ski areas and related facilities for winter day use. The Forest Service is currently considering a proposal to improve the existing skiing facilities and infrastructure, add ski lifts, and expand the ski terrain at the Anthony Lakes Mountain Resort. If the proposal is approved, winter visitation is expected to increase approximately 3 percent each year during the next ten years (USFS 2001).

Major Regulatory Requirements

The following Federal and State permits and consultation requirements may be required prior to project construction.

	Yes	No	TBD *
Federal			
Coastal Zone Management Act		Χ	
Executive Order 11988 (Flood Plains)		Х	
Executive Order 11990 (Wetlands)	Х		
National Historic Preservation Act (Section 106)	Х		
Farmland Protection Preservation Act (Prime and Unique Farmlands)		Х	
Land Use Requirements	X		
Section 4(f)			X
Endangered Species Act		Х	
Highway Improvements in the Vicinity of Airports		Х	
Fish & Wildlife Coordination Act	X		
Clean Water Act/Safe Drinking Water Act	Х		
Wild & Scenic Rivers Act		Х	
Clean Air Act		Х	
Hazardous Waste Act		Х	
Noise Requirements		Х	
Clean Water Act of 1977 (P.L. 95-217) Section 404 Permit	Х		
Rivers & Harbors Act and Surface Transportation Assistance Act Permit, US Coast Guard		Х	
Special Use Permit, US Forest Service or BLM		Х	
National Pollution Discharge Elimination System (NPDES)	Х		
State			
Remove/Fill Permit, ODSL	X	V	
Surface Mining Permit, Oregon DGMI Oregon Shoreline Development Permit, OLCD Commission		X	
Oregon onorenne pevelopment i ermit, ocop commission	I	^	

^{*} To be determined

ESTIMATED ENVIRONMENTAL EFFECTS

The environmental effects of the proposed project are divided by resource and displayed as answers to questions. Estimated effects are described as high (H), medium (M), low (L), none (N), or not applicable (N/A). If there are differences in effects between alternatives, these differences are discussed in the comments section. In general, implementation of the No Action alternative would have little or no effect on the environment, except where noted. Mitigation measures that would be implemented by WFLHD to alleviate project impacts are also discussed in the comments section.

Soils and Geology

Could construction of the proposed project cause:

	Н	M	L	N	N/A
Unstable earth conditions or changes in geologic substructures?		Χ			
2. Disruptions, displacement, compaction, or over covering of the soil?		Χ			
3. Changes in topography or ground surface relief features?			Χ		
4. Destruction, covering, or modification of any unique geologic or physical features?				Х	
5. Any increase in wind or water erosion of soils either on or off the site?			Χ		
6. Changes in deposition or erosion of beach sands that may modify the bed of the ocean, bay, or inlet?					Х
7. Changes in siltation, deposition, or erosion that may modify the channel of a river or stream or the bed of a lake?			Х		

Comments:

- 1. There are areas of unstable rock and soil cutslopes along the existing roadway; the No Action alternative would do nothing to improve this problem.

 Implementation of alternatives 2 or 3, which include rock fall mitigation structures, minor
 - Implementation of alternatives 2 or 3, which include rock-fall mitigation structures, minor retaining walls, and biotechnical soil stabilization would reduce the current rock fall and soil erosion situation.
- 2. Alternative 2 would include the least amount of soil disturbance because it involves minor curve realignment and minor road widening. Alternatives 3 would involve a moderate amount of soil disturbance from road widening and realignment.
- 5, 7. The existing road has erosion problems due to pavement raveling and sloughing of oversteepened soil cutslopes. These problems would continue at a moderate level with implementation of the No Action alternative. Implementation of alternatives 2 or 3, which include biotechnical soil stabilization, would improve roadside erosion problems.

During construction, the WFLHD would require implementation of "Best Management Practices" to control erosion in the project area. Following construction, all disturbed sites would be revegetated using native plant species.

Air

Could construction of the proposed project cause:

	Н	М	L	N	N/A
Air emissions or deterioration of ambient air quality?			Χ		
2. The creation of objectionable odors?				Χ	
3. An inconsistency with regional air quality requirements?				Χ	

Comments

1. The action alternatives would involve short-term exhaust emissions from construction equipment, dust generation during grinding, excavation, and hauling activities, as well as possible burn emissions during the debris-clearing phase.

As mitigation for these impacts, the FHWA would require that all equipment have functioning emission control devices, and dust abatement measures would be used during grading and hauling activities on unsurfaced roads. The contractor would be required to have a burning permit if any burning of debris is planned.

Water

Could construction of the proposed project cause:

	Н	М	L	N	N/A
1. Changes in currents, or the course of direction of water movements, in either marine or fresh waters?				Х	
2. Changes in the absorption rates, drainage patterns, or the rate and amount of surface water runoff?			Х		
3. A change in the amount of surface water in any water body?				Χ	
4. Discharges into surface waters or any alteration of surface water quality including but not limited to temperature, dissolved oxygen, or turbidity?			X		
5. The alteration of the direction or rate of flow of ground waters?			Х		
6. A change in the quantity of ground water either through direct additions or withdrawals or through interception of an aquifer by cuts or excavations?				Х	
7. The deterioration in ground water quality either through direct injection or through the seepage of leachate, phosphates, detergents, waterborne virus, or bacteria, or other substances into the ground waters?				Х	
8. The reduction in the amount of water otherwise available for public water supplies?			Х		
9. Alterations to the course or flow of floodwaters?			Х		
10. Placing fill below the ordinary high water mark of rivers and streams?			Х		
11. Encroachment into a 100-year flood plain or regulated flood way?			Х		

Comments

Alternatives 2 and 3 involve road widening, which would result in a minor increase in impermeable asphalt surface area, causing a slight increase in the amount of surface runoff. However, this increase would not bring about a noticeable change in absorption rates, drainage patterns, or the rate of surface water runoff.

During construction, the WFLHD would require implementation of "Best Management Practices" to control sediment from the construction site. Following construction, all disturbed sites would be revegetated using native plant species.

The North Powder River is listed in the ODEQ 303 (d) list as water quality impaired due to temperature. Since construction storm water is considered a sediment discharge rather than a temperature discharge, no special storm water mitigation or permit is required (Nadler 2003).

Wetlands

Could the proposed project result in:

	ı	1	1		
	Н	M	L	N	N/A
The removal of hydrophytic vegetation?			Χ		
2. The covering or replacing of any hydric soil?			Χ		
3. Alteration of the hydrology?			Χ		
4. A change in function or value?			Χ		

Comments

Impacts to wetlands would be minor for both action alternatives.

Flora

Could the proposed project bring about:

		Η	M	L	N	N/A
1.	A change in the diversity of species or numbers of any species of flora			Χ		
	(including trees, shrubs, grass, crops, micro flora, and aquatic plants)?					
2.	An effect on any unique, rare, or endangered species of flora?				Χ	
3.	The introduction of new species of flora into an area or a barrier to the normal			Χ		
	replenishment of existing species?					l

Comments

- 2. There are no known federally listed threatened or endangered plant species in the project area.
- 3. Soil disturbing activities such as the road construction proposed in both action alternatives have the potential to spread noxious weed seed and bring in new weeds from outside the area by way of contaminated soil transported on construction equipment. The WFLHD will implement mitigation measures to avoid the spread of noxious weeds.

To minimize the possibility of weeds being transported to the project area by construction equipment, the WFLHD would require that equipment be cleaned before entering the construction site. Any weeds brought about by construction activities would be treated. Following construction, disturbed sites would be revegetated using native plant species.

Fauna

Could the proposed project bring about:

		Н	M	L	N	N/A
1.	Changes in the diversity of species or numbers of any species of fauna (birds, land animals including reptiles, fish and shellfish, benthic organisms, insects, or micro fauna)?			Х		
2.	An effect on any threatened or endangered species of fauna?				Χ	
3.	The introduction of new species of fauna into an area or result in a barrier to the migration or movement of fauna?			Х		
4.	The deterioration of, or interference with, fish or wildlife critical habitat?				Х	

Comments

2. There are no known federally listed threatened or endangered species in the project area.

The proposed project area was evaluated to determine which TES species might occur based on the presence of probable habitat types, known locations and the biological requirements of each species involved. Potential impacts to wildlife are based on probable occurrence of the species along the project route and the types of activities involved in road construction.

Noise

Could the proposed project:

	Н	M	L	N	N/A
1. Increase existing noise levels?			Χ		

Comments

The road construction activities common to both action alternatives would cause a temporary increase in noise levels in the vicinity of the construction. Following construction, permanent noise levels should remain at or near existing levels and follow independent trends in changes in traffic volume for the area.

Land Use

Could the proposed project result in:

		Н	M	L	N	N/A
1.	The alteration of the present or planned land use of an area?				Χ	
2.	The reduction in acreage in any agricultural products?				Χ	
3.	The reduction in acreage of any Prime and Unique farmland?				Χ	

Comments

2. The action alternatives would involve acquisition of right-of-way. None of the impacted property is classified as prime or unique farmlands by the Natural Resources Conservation Service (NRCS).

Nonrenewable Natural Resources

Could the proposed project result in:

		Н	M	L	Z	N/A
1.	An increase in the use of any natural resources?				Χ	
2.	The reduction of any nonrenewable natural resources?			Χ		

Comments

2. Both action alternatives involve the use of crushed aggregate, a non-renewable natural resource, in the roadway base, pavement, and shoulder. The reconstruct alternative (3) would involve slightly more aggregate than the 3R alternative (2) due to more horizontal and vertical realignment of the road.

Energy

Could the proposed project result in:

		Н	M	L	N	N/A
1.	The use of substantial amounts of fuel or energy?			Χ		
2.	The savings of substantial amounts of fuel or energy?			Χ		

Comments

The road construction activities proposed in the action alternatives involves a minor use of fossil fuel in the operation of construction equipment. Proposed roadway improvements are not expected to bring about an appreciable increase in traffic volume or resultant increase in fossil fuel use.

Aesthetics

Could the proposed project result in:

	Н	M	L	N	N/A
1. A change in a scenic vista or view as seen from the road?			Χ		
2. A change in a scenic vista or view for viewers of the road?			Χ		
3. A conflict with the scenic management plans of other agencies?				Χ	
4. New light or glare?				Χ	

Comments

The action alternatives would require a small amount of new road cuts at the realigned curves and where walls are proposed. Alternative 3 would slightly have more impacts than Alternative 2 because the road would be wider

Recreation

Could the proposed project result in:

	Н	М	L	N	N/A
1. An impact upon the quality or quantity of existing recreational opportunities?		Χ			

Comments

The road improvements proposed in the action alternatives would improve road safety and reduce the risk of accidents along the Anthony Lakes Highway, which is used to access the Anthony Lakes Mountain Resort as well as other recreational opportunities. Improving the access to these uses would also improve the quality of the recreational experience.

Historic Properties

Could the proposed project cause:

		Н	М	L	N	N/A
1.	The alteration of an important archaeological site?		Χ			
2.	The alteration of a historical site, structure, object, or building?		Χ			
3.	The alteration of a traditional cultural property?				Χ	

Comments

Surveys are currently underway to determine the extent of potential impacts to cultural and archaeological resources found during the initial archaeological inventory. Impacts to cultural resources will be avoided or mitigated as approved by the State Historic Preservation Office (SHPO).

Hazardous Waste

Could the proposed project:

	H	M	L	N	N/A
1. Affect a known hazardous waste site on the EPA's National Priority List (NPL) or a statewide inventory?				Х	
2. Affect a site with the potential for hazardous waste (e.g. sanitary landfills, gasoline stations, industrial sites)?				Х	
3. Affect human health by creating a health hazard or a potentially unhealthy situation?			Х		
4. Increase the likelihood of an explosion or release of hazardous substances (including but not limited to oil, pesticides, chemicals, or radiation) in the even of an accident?	t		Х		

Comments

3, 4. The accidental release of gasoline, diesel fuel, or asphalt concrete in the project area during construction is possible with implementation of the action alternatives. The contractor would be required to have a petroleum spill kit on hand to quickly clean up any petroleum releases that might occur at the construction site and follow "Best Management Practices" during construction to reduce the risk of such an occurrence.

Socio-Economic

Could the proposed project:

		Н	M	L	N	N/A
1.	Alter the location, distribution, density, or growth rate of the human population of an area?			Х		
2.	Affect racial, ethnic, religious, minority, elderly, or low-income groups?				Χ	
3.	Affect existing housing (including but not limited to rural or urban residences and business or commercial buildings)?			Х		
4.	Create a demand for additional housing?			Х		
5.	Affect local employment, taxes, property values, etc.?			Χ		

Comments

- 1,4. Improvement of the Anthony Lakes Highway would improve access to the private property in the area. With the potential expansion of the Anthony Lakes Mountain Resort and improvement of Forest Road 73, the area could become more desirable for the development of summer homes and tourist related businesses.
- 3. The proposed project does not involve removal of existing housing or buildings; however, some ranch and residence access roads may be impacted for short periods during road construction. The WFLHD would work with property owners to maintain basic access during construction. All affected access roads would be rebuilt to maintain necessary uses.
 - A small amount of additional right-of-way would be needed to implement the action alternatives. Owners of affected properties would be offered fair market value for the right-of-way and paid any damages to remaining property if damages occur. Property acquisitions, compensation, and benefits would be calculated in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act, its implementing rule (49 CFR, Part 24), U.S. Department of Transportation Order 5620.1, and pertinent state laws.
- 5. The road improvements proposed in the action alternatives could bring about a short-term increase in construction-related jobs and benefits to local businesses and materials suppliers during the construction phase of the proposed project.
 - Road improvements would support the Baker County economic initiative on tourism by facilitating increased use of the Elkhorn Drive Forest Scenic Byway and improving access to the Anthony Lakes Mountain Resort.

Public Services

Could the proposed project have an effect upon or result in a need for new or altered services in any of the following areas:

	H	M	L	N	N/A
1. Fire protection?			Χ		
2. Police protection?			Х		
3. Schools?			Х		
4. Maintenance of public facilities (including roads)?		Χ			
5. Airports?				Χ	
6. Religious institutions or facilities?				Χ	
7. Health services?			Х		
8. Mail delivery?			Х		
9. Parks and recreational facilities?			Х		
10 Other services?			Χ		

Comments

- 1-3, 7-10. Implementation of the improvements proposed in alternatives 2,3 and 4 would provide safer public access for all road users including fire and police protection, school transportation, ambulance service, mail delivery, and recreational users of the national forest.
- 4. The road improvements proposed in the action alternatives would have a positive effect on road maintenance since the improved roadway would require less upkeep than the existing road if it were allowed to deteriorate over time. This would free maintenance resources to be used on other roads.

The No Action alternative (1) would have a high negative impact on road maintenance. As the road surface continues to deteriorate, it would require a higher investment in time, resources, and money to keep in good condition. The road surface would need to be replaced within the next 5 years, independent of the proposed project.

Transportation/Circulation

Could the proposed project cause:

	н	M	L	N	N/A
1. An increase in motor vehicle movement?		Χ			
2. An increase in the movement of bicycles, pedestrians, or equestrians?			Х		
3. Increased traffic hazards to cyclists, pedestrians, or equestrians?				Х	
4. An effect on existing parking facilities or create demand for new parking?		Х			
5. Changes in access?				Х	
6. An effect upon existing transportation systems?		Χ			
7. An effect upon waterborne, rail, or air traffic?				Χ	
8. Impacts associated with construction activities (e.g. detours, temp. delays)?			Х		

Comments

- 1. The action alternatives would involve a short-term increase in construction-related truck traffic. Following construction, normal traffic volumes would increase independent of the proposed project.
- 4. The parking turnoff near the North Powder River bridge would be improved under the action alternatives.
- 5, 6. The Anthony Lakes Highway is used for recreation and commercial access to the national forest and to access private property. Improvements to the operational and safety characteristics of the road would benefit all users as well as prolong the life of the road. It would also facilitate increased use of the Elkhorn Drive Forest Scenic Byway and improve access to the Anthony Lakes Mountain Resort.
- 8. Construction activities involved in the action alternatives would cause minor traffic delays during the construction period. No road closures or detours are anticipated.

Utilities

Could the proposed project bring about a need for new systems or alterations of the following utilities:

		н	М	L	N	N/A
1.	Power or natural gas?		Х			
2.	Communications systems?		Χ			
3.	Water?				Χ	
4.	Sanitary systems or septic tanks?				Χ	
5.	Storm water drainage?				Χ	
6.	Irrigation systems?				Х	

7. Solid waste disposal?		X	
8. Pipelines?		Х	
9. Cable TV?		Х	

Comments

1, 2. The road widening proposed in the action alternatives may require the relocation of utilities. Typically the cost for relocation of utilities in existing rights-of-way is borne by the utility companies. The amount of new right-of-way needed for the project will take into account the room necessary to relocate utilities. The WFLHD would coordinate with all utility companies to relocate affected utilities prior to road construction.

COORDINATION AND CONSULTATION

Early Coordination

A Social, Economic, and Environmental (SEE) Study Team was set up in the scoping phase of project development to confirm design criteria, identify preliminary environmental issues, and recommend alternatives for the proposed project. The SEE Team acts as a steering committee for project development activities during the conceptual and design phases of the project. It is also responsible for development and implementation of a public involvement process. The Team is composed of representatives of the local land management agencies, county road department, and FHWA Western Federal Lands Highway Division.

The SEE Team members for this project are as follows:

Baker County Road Department

Ken Helgerson, Road Master

U.S. Forest Service, Wallowa-Whitman National Forest

Dana Taylor, Forest Road Manager

Federal Highway Administration, Western Federal Lands Highway Division

George Fekaris, Design Operations Engineer John Acerbi, Designer Diane Spencer, Environmental Specialist

Public Participation

The SEE Team compiled a project mailing list made up of local property owners, potentially interested publics, applicable tribes, and regulatory agencies. A copy of the mailing list can be found in the Anthony Lakes Highway project file located at the Western Federal Lands Highway Division Office in Vancouver Washington.

A public notice asking for comments on the proposed project was sent to everyone on the mailing list and published in the local newspapers in June of 2002. Three comments were received concerning the project. The public notice, a summary of the public comments, WFLHD responses, and how comments will be used in the project planning process are included in Appendix A.

This project checklist will be made available to the public and applicable government agencies for review. A public notice announcing the availability of the project checklist was published in the local newspapers and was sent to everyone on the mailing list (see Appendix B for public notice). A public meeting will also be held on December 10, 2003 in Baker City Oregon, at the old dining room at the Geiser Grand Hotel from 3:00 pm to 8:00 pm. The purpose of the meeting is for the interested public to ask questions and express concerns regarding the information presented in the project checklist.

Comments regarding phase 3 of Anthony Lakes Highways project and project checklist may be brought to the public meeting or sent to the following address by December 15, 2003

Western Federal Lands Highway Division
610 East Fifth Street
Vancouver, Washington 98661-3839
ATTN: Diane Spencer, Environmental Specialist
or email responses may be sent to dfspence@wfl.fha.dot.gov

REFERENCES

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Franklin, Jerry F., and C.T. Dyrness. 1973, 1988. Natural Vegetation of Oregon and Washington. Pacific Northwest Forest and Range Experiment Station, USDA Forest Service, Portland, Oregon.

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Natural Resources Conservation Service. 1999. Baker County Soil Survey.

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U.S. Forest Service. 2001. Final Environmental Impact Statement and Record of Decision. Anthony Lakes Mountain Resort Master Development Plan.

Waldo, Joel. 2003. U.S. Forest Service, Fisheries Biologist, Wallowa-Whitman National Forest. Personal Communication.

APPENDIX A

Public Comments and WFLHD Responses

COMMENTOR	COMMENT	WFLHD RESPONSE
William Lovelace Email comment	There is no USFS [U.S. Forest Service] easement along USFS road 73 from the junction of USFS road 7302 to the forest boundary. The old Anthony Lakes Highway, which includes part of USFS 7302, was not abandoned by the state. I think the public safety would best be served if the project would also include some deferred maintenance of the old Anthony Lakes Highway on USFS 7302. There are considerable erosion problems between the old switchback on USFS 7302 and the new alignment of USFS 73; this erosion affects both the old and new highways. The ruts on the old highway are a threat to the public especially at the old switchback. I suggest that the project also connect from FS 73 to FS 7302.	Thank you for the helpful information. The WFLHD is aware of the right-of-way discrepancies along the existing route. Baker County will be responsible for acquiring the necessary right-of-way to complete the proposed project. See the Project Checklist under "Land Ownership" for further discussion of this subject. The proposed project has been extended to include resurfacing Forest Road (FR) 73 from the junction of FR 7302 to the national forest boundary. The intersection between FR 73 and FR 7302 is also proposed for reconstruction, and the eroding slope between FR 73 and FR 7302 would be stabilized. See the Project Checklist alternatives discussion for a complete description of proposed improvements.
Rick Pignone Anthony Lakes Mountain Resort Mailed comment	The Anthony Lakes Mountain Resort supports the proposed upgrade to Baker County Route 1146. The road sees increased use every year. This stretch of highway is in dire need of improvement.	Thank you for your support of the proposed project.
Lyle Umpleby Powder Valley Water Control District Mailed comment	In the 1980's the Powder Valley Water Control District had plans drawn up for a proposed dam on the North Powder River in the area where the proposed road project is located. At the time plans were made to relocate the existing highway around the proposed dam. The board of PVWCD asks that the dam be taken into consideration when refurbishing this section of highway. Would it be more cost effective to consider relocating the highway at this time?	See the Project Checklist under "Alternatives Considered but Not Developed Further" for discussion of this issue.

APPENDIX B





Public Notice

for

Phase 3

Anthony Lakes Highway Improvement Project Public Open House

and

Project Checklist

The Western Federal Lands Highway Division of the Federal Highway Administration (FHWA) has completed a Project Checklist for a proposal to continue highway improvements on phase 3 of the Anthony Lakes Highway. The proposed project is located on Baker County Road 1146 and Forest Road 73 approximately 13 miles northwest of Haines Oregon. The project would extend for about 2 miles from the North Powder River bridge (the end of phase 2 road improvements) to the boundary of the Wallowa-Whitman National Forest.

The purpose of the project checklist is to inform the public about a proposed FHWA project and provide them with the opportunity to become involved in the project development process. The Project Checklist describes why the FHWA believes the project is needed, the scope of the needed improvements, and the alternative solutions being considered at this time. It also includes a description of the environment in which the project is located and an estimate of possible impacts the project could have on the environment.

If you would like a copy of the Anthony Lakes Highway Phase 3 Project Checklist for review please contact Diane Spencer, Environmental Specialist, at (360) 619-7785 or email diane.spencer@fhwa.dot.gov. Comments on the proposed project and project checklist may be sent to the Federal Highway Administration at the address below by December 15, 2003 or brought to the Public Open House.

What: Public Open House,

Phase 3, Anthony Lakes Highway

Where: Geiser Grand Hotel, Old Dining Room

When: Wednesday, December 10, 2003

3:00 PM until 8:00 PM

You are invited to drop by any time during the open period to ask questions or comment on the proposed project in an informal, one-on-one setting. Representatives from the FHWA, Baker County Road Department, and the U.S. Forest Service will be available to discuss the project proposal with you.

Federal Highway Administration Western Federal Lands Highway Division 610 East Fifth Street Vancouver, Washington 98661-3893

